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September 21, 1999

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Ms. Magalie Roman Salas  
Office of the Secretary  
Federal Communications Commission  
445 Twelfth Street, S.W.  
12<sup>th</sup> Street Lobby, TW-A325  
Washington, DC 20554

SEP 21 1999

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

Re: ***Ex Parte* Presentation**  
**WT Docket No. 96-86**

Dear Ms. Salas:

Nokia Inc. ("Nokia") files this letter in support of certain portions of a Petition for Reconsideration filed by Ericsson Inc. ("Ericsson") in the above-captioned proceeding.<sup>1</sup> In particular, Nokia supports Ericsson's suggestion that the channel plan adopted by the Commission in the First Report and Order in this proceeding<sup>2</sup> should be modified to allow for the introduction of competitive technologies in the 700 MHz public safety band.

Introduction and Background

Nokia is the world's leading supplier of mobile telephones and is a global leader in the manufacture of telecommunications infrastructure, including mobile, fixed, and Internet Protocol networks. In addition, Nokia is a leading supplier of professional mobile radio ("PMR") systems, including equipment used by public safety agencies, in

<sup>1</sup> Petition for Reconsideration by Ericsson, Inc. to the First Report and Order and Third Notice of Proposed Rulemaking, WT Docket No. 96-86 (filed Dec. 2, 1998) (hereinafter "Ericsson Petition").

<sup>2</sup> The Development of Operational, Technical, and Spectrum Requirements for Meeting Federal, State and Local Public Safety Agency Communication Requirements Through the Year 2010, Establishment of Rules and Requirements for Priority Access Service, First Report and Order and Third Notice of Proposed Rulemaking, 14 FCC Rcd. 152 (1998) (hereinafter "First R&O").

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Europe, South America, and Asia.<sup>3</sup> Nokia's PMR products are complete system solutions and are based on both the open analog standard - MPT1327 (ACTIONET) and the open digital standard - TETRA (Terrestrial Trunked Radio). These systems come complete with network infrastructure and terminal equipment. The Nokia TETRA System provides all the technical merits of TETRA technology combined with ease of use and high performance. It is based on Nokia's leading know-how and experience in digital mobile communications.

As a leading global supplier of equipment for public safety communications users, Nokia has a keen interest in this proceeding and is now an active member of the National Coordination Committee ("NCC"). The NCC is a Federal Advisory Committee authorized by the Commission in the first R&O to, *inter alia*, solicit input from the public safety community and equipment manufacturers in the further development of rules governing the new 700 MHz public safety band, particularly in regard to interoperability. An important part of this task will be to develop rules that will allow for increased competition in the provision of public safety radio equipment. Nokia believes that Ericsson's suggestion regarding changes to the channel band plan in the First R&O would facilitate market entry by Nokia and other providers, providing much-needed competition and innovative technologies in the public safety radio and PMR markets. The introduction of such competition and the resulting increases in innovation and reductions in prices are consistent with sound public policy and with the Commission's specific goals in this proceeding.<sup>4</sup> In particular, Nokia urges the Commission to adopt Ericsson's suggested changes to the rules regarding the aggregation of channels in the interoperability and reserved narrowband portions of the spectrum.

#### Ericsson Petition

In its Petition, Ericsson asked the Commission to reconsider certain portions of its channel plan in order to allow for the potential application of new technologies to operate in the narrowband interoperability portion of the 700 MHz band. In particular, Ericsson points out that:

[w]hile the discussion in the Report & Order and the rules adopted clearly indicate that that up to four narrowband channels can be aggregated, this simply is impossible in the entire interoperability portion and [sic] also impossible in a significant portion of the reserved spectrum. At no place in the interoperability spectrum are

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<sup>3</sup> Nokia maintains manufacturing facilities in 10 countries and has more than 51,000 employees in over 45 countries around the world, including over 6,000 employees in the United States. Nokia is paving the way to the mobile information society with its innovative products and solutions.

<sup>4</sup> See First R&O at ¶ 6 ("By establishing a flexible regulatory framework for public safety use of the 700 MHz band, we seek to enable public safety organizations to effectively use this new allocation for a variety of operational modes (voice, data, image/high speed data (HSD), and video), to promote competition in the equipment markets through flexible technical standards, and to promote development of innovative public safety technologies.")

more than two 6.25 kHz channels located immediately adjacent to each other. The same is true for the majority of the reserved portion of the narrowband spectrum. The net effect is that many promising technologies could not even be considered for application in the interoperability portion of the narrowband spectrum, and many current and developing technologies would be excluded *a priori* from application in the reserved portion of the spectrum. In essence the rules may be limiting this new band to application of existing public safety technologies or to a limited number of technologies that are being developed only for public safety use.<sup>5</sup>

Nokia shares Ericsson's concern that the Commission's channel plan, as currently adopted, may preclude the adoption of certain new and perhaps superior technologies, including TETRA, from operating in the interoperability portion of the narrowband spectrum. Tetra is a TDMA based system where the initial channel width has been chosen 25 kHz. Modifying the existing channel plan to provide 4 adjacent 6.25 kHz channels would make it possible for TETRA based systems to be considered as viable alternatives to other technologies. TETRA has a bit rate of 28.8 kbps for 25 kHz, which is much higher than the required 4.8 kbps per 6.25 kHz channel efficiency (the original FCC channel efficiency requirement is only 19.2 per equivalent 25 kHz channel allocation). The TETRA bit rate is integrated and can be used for both voice and data.

As noted by Ericsson, the inability to aggregate four interoperability channels may preclude the adoption of TETRA and other promising technologies from being considered in the interoperability portion of the spectrum. The result of such a preclusion will likely be reduced competition, fewer choices and higher prices for public safety users. Such a result can be avoided, however, if the Commission makes the simple change to its channel plan suggested by Ericsson to allow the aggregation of at least four narrowband channels for interoperability. In its Petition, Ericsson suggests that

[t]o alleviate this exclusion of technologies, [it] strongly recommends that the aggregation limit in the narrowband portion of this new band be changed to eight 6.25 kHz channels, and that the channel plan be modified to accommodate such limit in all segments of the narrowband portion of this new band. We recognize that this change may add some complication to the coordination process, but the benefits of maximizing flexibility, maximizing spectrum efficiency, and the removal of limitations on NCC deliberations as it commences to fulfill its mandated responsibilities, more than outweigh these additional complications.<sup>6</sup>

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<sup>5</sup> Ericsson Petition at 6.

<sup>6</sup> Ericsson Petition at 7 (emphasis added). While Ericsson suggests allowing the aggregation of up to eight narrowband channels, Nokia believes that aggregation of at least four channels is sufficient to allow the introduction of new technologies in the interoperability portion of this band.

Nokia agrees that permitting aggregation of at least four channels for interoperability would make it possible to implement new technologies such as TETRA. Currently, there is a perception among some members of the NCC that, due to the current channel plan, TETRA or other 25 kHz technologies, could be precluded as a possible technology choice for the interoperability channels.

To clarify that this will not be the case, Nokia urges the Commission to act on Ericsson's Petition by amending Section 90.531(d) of its rules to allow for the aggregation of the narrowband interoperability channel pairs delineated in Section 90.531(b)(1) with the adjacent reserved narrowband channel pairs delineated in 90.531(b)(2) of its rules. Such a rule change will allow for the possibility of new technologies to be considered for the interoperability spectrum, without eliminating consideration of any technologies currently under consideration.

### Conclusion

Nokia is very interested in pursuing the opportunity to serve the U.S. public safety radio market by offering technologically advanced, affordable and user friendly radio systems and terminals. We believe that we can provide much needed competition in this market, resulting in increased product choice, superior technology and lower prices. Such results are clearly in the public interest and will benefit public safety users, the public in general, and finally, U.S. taxpayers. We urge the Commission to consider the suggestions contained herein regarding proposed changes to its adopted band plan.

Pursuant to Section 1.1206 of the Commission's Rules, an original and one copy of this letter are being filed with your office. If you should have any questions or need further information, please do not hesitate to contact me at (202) 887-5330.

Sincerely,



Leo R. Fitzsimon  
Director  
Regulatory and Industry Affairs  
Nokia Inc.